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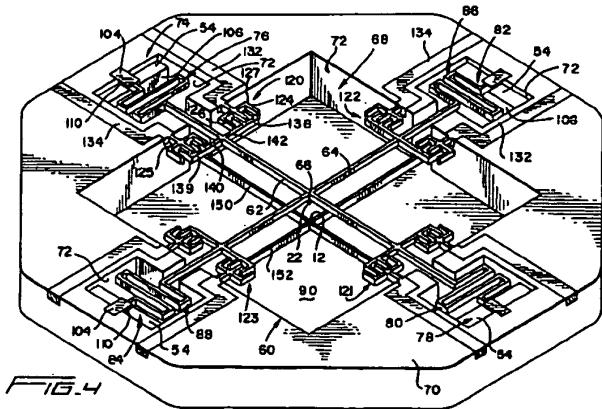
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(84) Designated Contracting States: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE	(72) Inventors: <ul style="list-style-type: none"><li>• Arney, Susanne Christine c/o AT&amp;T Bell Labs. Murray Hill, New Jersey 07974 (US)</li><li>• MacDonald, Noel C. Ithaca, New York 14850 (US)</li><li>• Yao, Jun Jason Rockwell Science International Thousand Oaks, CA 91360 (US)</li></ul>
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(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC: 92912228.1 / 0 584 233	
(71) Applicant: CORNELL RESEARCH FOUNDATION, INC. Ithaca, NY 14850 (US)	(74) Representative: Weisert, Annekäte, Dipl.-Ing. Dr.-Ing. et al Patentanwälte Kraus & Weisert Thomas-Wimmer-Ring 15 80539 München (DE)

**(54) Methods of fabricating integrated, aligned tunneling tip pairs**

(57) Self-aligned, opposed, nanometer dimension tips (12, 22) are fabricated in pairs, one of each pair being located on a movable (24) single crystal beam, with the beam being movable in three dimensions with respect to a substrate (18) carrying the other tip (12) of a pair. Motion of one tip with respect to the other is controlled or sensed by transducers (120, 122, 124, 126) formed on the supporting beams (62, 64). Spring

means (76, 80, 86, 88) in each beam allow axial motion of the beam. The tips (12, 22) and beams (62, 64) are fabricated from single crystal silicon substrate (18) and the tips (12, 22) may be electrically isolated from the substrate (18) by fabricating insulating segments (40, 54) in the beam structure.



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## EUROPEAN SEARCH REPORT

Application Number  
EP 98 11 6809

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The present search report has been drawn up for all claims			
Place of search  THE HAGUE		Date of completion of the search  15 August 2000	Examiner  Clevorn, J
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T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



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## EUROPEAN SEARCH REPORT

Application Number  
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THE HAGUE	15 August 2000	Clevorn, J	
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82